

Serial No. 09/692,600  
Amdt. dated October 1, 2004  
Reply to Office Action of July 9, 2004

Attorney Docket No. CAS0014

**REMARKS/ARGUMENTS**

Claims 1 through 21 remain in this application.

Claims 10 and 19 through 21 have been amended to correct innocuous, typographical errors. Approval of the changes to claims 10 and 19 through 21 is respectfully requested.

Claims 1 through 3, 10 through 12, and 21 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,631,346 to Karaorman, et al. ("Karaorman, et al. patent"). Also, claims 5, 7 through 9, and 13 through 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Karaorman, et al. patent.

Claim 1 provides a method of decoding a packed representation of multiple parses comprising the steps of providing a packed representation including at least one edgenode, each edgenode including a substitution list; creating a current forest object; replicating the current forest object for each edgenode having a substitution list containing greater than one edgenode; and traversing each edgenode of the packed representation. Also, claim 10 provides a program for decoding a packed representation of parses stored on computer readable medium comprising computer readable program code for creating a current forest object; computer readable program code for traversing each edgenode of the packed representation; and computer readable program code for replicating the forest object for each edgenode having a substitution list of elements greater than 1. In addition, claim 21 provides A system for decoding multiple parses comprising a parser which receives output from a speech recognizer and creating parses stored in a packed

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representation, the packed representation including a plurality of edgenodes; each edgenode including a substitution list; and an unpacking program stored on a computer readable medium including program code for creating an unpacked forest including the steps of creating a current forest object, traversing each edgenode of the packed representation using a depth-first traversal, replicating the current forest object a number of times equal to the number of edgenodes in the substitution list, and updating each copy of the current forest object with a treenode corresponding to one of the edgenodes of the substitution list. It is important to note that claims 1, 10 and 21 are directed to a method, program or system that use packed parse forests, for example, by using substitution lists of edgenodes.

In contrast, the Karaorman, et al. patent describes an ASR system that generates a plurality of parse forests, but does not describe or suggest a method, program or system for using packed or unpacked parse forests, as required by claims 1, 10 and 21. FIG. 4 of the Karaorman, et al. patent does not show a method program, or system for providing a packed representation including at least one edgenode in which each edgenode includes a substitution list. Rather, it provides a high-level view of a system in which two components (items 130 and 132) generate parse forests but do not pack or unpack the parse forests. FIGs. 6 and 7 of the Karaorman, et al. patent do not show a packed representation including nodes of a parse tree. FIG. 6 shows a sample parse-tree 252 (col. 7, 65), and FIG. 7 shows a parse tree diagram consisting of five possible parse trees and corresponding tags (col. 8, 25). The parse tree diagram shown in FIG. 7 is not a packed representation of a parse forest because, in the representation of the Karaorman, et al. patent, no structure is packed (i.e., all nonterminals are unambiguously defined; there are no

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substitution lists). In addition, the Karaorman, et al. patent does not describe or suggest traversing and updating each node of a packed representation, since it does not describe or suggest any type of a packed representation of the parse forest. Therefore, claims 1, 10, and 21 distinguish patentably from the Karaorman, et al. patent.

Claims 2 through 9 and 11 through 20 depend from and include all limitations of independent claims 1 and 10, respectively. Therefore, claims 2 through 9 and 11 through 20 distinguish patentably from the Karaorman, et al. patent (in combination with the Examiner's Official Notice) for the reasons stated above for independent claims 1 and 10.

In view of the above, reconsideration and withdrawal of the rejections of claims 1 through 21 are respectfully requested.

### CONCLUSION

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. Also, no amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have argued herein that such amendment was made to distinguish over a particular reference or combination of references.

The Commissioner is hereby authorized to deduct any additional fees arising as a result of this response, including any fees for Extensions of Time, or any other communication from or to credit any overpayments to Deposit Account No. 50-2117.

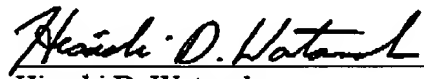
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It is submitted that the claims clearly define the invention, are supported by the specification and drawings, and are in a condition for allowance. Applicants respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner have any questions or concerns that may expedite prosecution of the present application, the Examiner is encouraged to telephone the undersigned.

Respectfully submitted,  
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